

STEM CAMPUS

Summary of Activities

July 22 – August 2

Introduction

Qatar Shell has partnered with College of the North Atlantic - Qatar (CNA-Q) to offer a first-of-its-kind summer camp to engage high school students in STEM (Science, Technology, Engineering, Mathematics). The summer camp, with the support of the Ministry of Education and Higher Education, is under the Shell “Maharat Qatar” program, committed to developing and inspiring the young minds of Qatar in STEM-related fields.

‘STEM CampUS’ will be held at the CNA-Q campus from July 22- August 2, 2018. It is designed to enhance young people’s creative and critical thinking skills through hands-on, applied learning via Technical and Vocational Education and Training (TVET). Students will also participate in a variety of sports activities, career path assessments, and a field trip to visit Qatar Shell Research and Technology Centre.

NXplorers

NXplorers is a Shell innovative and educational program for students focused on the food-water-energy stress nexus. The program introduces future leaders to the complex thinking needed to bring about positive change. The program starts with a practical, interactive and collaborative workshop that will run over four days. Students are introduced to a fresh way of thinking about complex challenges that are relevant to them, and provided the tools, methodologies and skills needed to tackle these real-world problems, using a combination of systems thinking, scenario planning and a theory of change methodology.

During the workshop, the students will practice using the “Explore” tools to identify local food-water energy issue, the causes, the factors the influence the issues, the connections the perspectives of the people involved and affected. Students will practice scenario planning, to understand the probable future scenarios if things continue their current trajectory, create possible and preferred futures for their issue. Students will also learn to use the “Change” tools to understand the feasibility, and the consequences of the preferred futures and the actions required. Participants will also practice and use the tools to help think about how to persuade and influence others to enable change to happen.

By the end of the workshop, the students will have created an action plan to bring about positive change, and are invited to come back as volunteer ambassadors and future facilitators for the program.



مهارات قطر
Maharat Qatar



Field Trip to Qatar Shell Research and Technology Centre

The Qatar Shell Research and Technology Centre (QSRTC) focuses on testing and demonstrating the value of breakthrough technologies in energy and the environment, paving the way for their use throughout Qatar.

Over the past decade, QSRTC have advanced the development and deployment of innovative solutions in line with the Qatar National Vision (QNV) 2030 ambition to foster a diverse, knowledge-based economy for future generations.

QSRTC's outreach activities include collaboration with various national and international universities, delivering industrial knowledge, and hosting visitors to showcase the capabilities and achievements of Qatar Shell's research and technology.

Students will have the chance to visit these facilities, learn about the ongoing work, and see the impact of STEM research on the world around them.

Information Technology Module

Students will learn to identify, disconnect and connect computer hardware parts, and explain the concept of IP address and how to trace email sender location. They will also learn how to share (and protect) files, folders and printers over a network. The second part of this workshop will introduce the students to Android development using one of the latest mobile software development frameworks such as React native.

The workshop is designed to appeal to those that are interested in computer hardware as well as those that might be more interested in software design.

By the end of this workshop, students should have the confidence to connect and then disconnect computer internal parts. Students will also be able to create a simple Android App and edit an open source Android game developed by React native.

Business & Entrepreneurship Module

Even before the push to diversify the economy of Qatar, entrepreneurship in all its guises (intrapreneur, social entrepreneur, E-preneur) has been on the rise since 2000 in Doha and globally. It is recognized by organizations such as the United Nations and the World Bank that the skills, creativity and desire for entrepreneurship are pre-requisites for success for economies and for the children of the Gen Z in the era of advancing artificial intelligence. The two-part session will introduce students to the basic definition of entrepreneurship and then embark them on a facilitated ideation session to develop a business idea.

After a short introduction to 'the possible' (Just Socks) of entrepreneurship, participants will discuss what is an entrepreneur and what do they actually do. With this foundation, the participants will turn their attention and analysis to the creation of a business. The future of Qatar and business needs will be the focus. Students will then present and pitch their ideas.



Engineering Technology Module

Students will learn the purpose of a Three Phase Separator, as well as, be able to identify the feed-stocks and products, label the major unit equipment and process flows, and record the normal operating conditions on a log sheet. The workshop will include demonstration of a working model, a simtronics simulator, and a process simulation control room. Simulation exercises and hands-on activities will supplement the demonstrations.

Students will gain an understanding of crude oil processing, use of simulators and models, and the importance of keeping logs.

Health Sciences Module

Students will learn about the environmental and occupational health professions. Through a case scenario involving an employee working outdoors and experiencing breathing problems, the students will identify hazards, assess risks, and identify controls. They will learn about air sampling, testing, and analyzing data.

Participants will then create a poster based on what they have learned and present findings and solutions.

Co-Curricular Activities

To engage students in active learning, they will reflect on the activities they have participated in and review the skills they have learned. There will be a focus on 21st century skills and employability, with a theme for each day including leadership, teambuilding, and problem solving. Students will build on what they have learned in the classroom to understand the importance of soft skills and the experience outside the classroom, be it volunteering, student life, or the workplace.

Recreation

During the first week of camp, students will learn elementary physical activity skills through team-based activities such as relays, dodging, and tagging games. The second week of camp will allow participants to engage with specific recreational activities such as billiards, football, basketball, table tennis, and e-gaming.

